

In the Claims

This listing of claims will replace all prior versions, and listings, of claims.

Listing of Claims

1–14. Canceled.

15. (currently amended) A renewing method for a glass molding die, comprising:

providing a used glass molding die comprising a substrate, a first noble metal layer overlying the substrate, a second noble metal layer overlying the first noble metal layer, a carbon-containing third noble metal layer directly on ~~overlying~~ the second noble metal layer, and a diamond-like carbon (DLC) passivation film directly on ~~overlying~~ the third noble metal layer;

removing the passivation film and partially removing the third noble metal layer using oxygen plasma;

grinding and polishing the molding die to completely remove the third noble metal layer;

cleaning the polished molding die;

forming a fourth noble metal layer directly on ~~overlying~~ the second noble metal layer; and

forming a second passivation film directly on ~~overlying~~ the fourth noble metal layer, wherein the second passivation film comprises the same material as the passivation film directly on ~~overlying~~ the third noble metal layer.

16. (original) The method as claimed in claim 15, wherein the substrate comprises tungsten carbide.

17. (previously presented) The method as claimed in claim 15, wherein the first noble metal layer comprises Ni-containing Ir-Re alloy.

18. (original) The method as claimed in claim 15, wherein the thickness of first noble metal layer comprises about 0.3 to 0.6 μ m.

19. (original) The method as claimed in claim 15, wherein the second noble metal layer comprises Ir-Re alloy.

20. (original) The method as claimed in claim 15, wherein the thickness of second noble metal layer is about 0.3 to 0.6 μ m.

21. (previously presented) The method as claimed in claim 1, wherein the thickness of third noble metal layer is about 0.01 to 0.05 μ m.

22. (previously presented) The method as claimed in claim 15, wherein the third noble metal layer comprises carbon-containing Ir-Re alloy with C, Ir, and Re atoms therein arranged as superlattice.

23. (original) The method as claimed in claim 15, wherein the third noble metal layer comprises carburized Ir-Re alloy.

24. (previously presented) The method as claimed in claim 15, wherein the fourth noble metal layer comprises the same material as the third noble metal layer.

25. (previously presented) The method as claimed in claim 15, wherein the fourth noble metal layer comprises carbon-containing Ir-Re alloy with C, Ir, and Re atoms therein arranged as superlattice.

26. (original) The method as claimed in claim 25, further comprising forming the fourth noble metal layer using co-sputtering with multiple targets.

27. (original) The method as claimed in claim 25, wherein carbon concentration in the fourth noble metal layer is approximately 20% or more.

28. (original) The method as claimed in claim 15, wherein the fourth noble metal layer comprises carburized Ir-Re alloy.

29. (original) The method as claimed in claim 28, wherein forming the fourth noble metal layer further comprises:

forming a Ir-Re alloy layer overlying the second noble metal layer; and
implanting carbon ions into a surface of the Ir-Re alloy layer, thereby carburizing the Ir-Re alloy layer.

30. (original) The method as claimed in claim 28, wherein carbon concentration in the carburized surface of the fourth noble metal layer is approximately 20% or more.

31. (original) The method as claimed in claim 15, wherein the thickness of second passivation film is about 0.01 to 0.3 μ m.

32. (original) The method as claimed in claim 1, wherein the second passivation film has a molding surface.